

## Sequence Listing

<110> Dobeel Corporation

<120> PRE S PROTEIN OF HEPATITIS B VIRUS (HBV) AS AN ADJUVANT AND A COMPONENT OF HBV VACCINE

<150> KR 10-2001-29002

<151> 2001-05-25

<160> 11

<170> KopatentIn 1.71

<210> 1

<211> 522

<212> DNA

<213> HBV(adr subtype) pre S gene

<400> 1

atgggagggtt ggtcttccaa acctcgacaa ggcattggga cgaatcttc tggccaaat 60

cctctggat tctttcccgaa tcaccagttg gaccctgcgt tcggagccaa ctcaaacaat 120

ccagattggg acttcaaccc caacaaggat cactggccag aggcaatca ggttaggatg 180

ggagcattcg ggccagggtt cacccacca cacggcggtc ttttgggtg gagccctcag 240

gctcaggggca tattgacaac agtgccagca ggccttcctc ctgcctccac caatcggcag 300

tcaggaagac agcctactcc catctctcca cctctaagag acagtcatcc tcaggccatg 360

cagtggaaact ccaccacatt ccaccaagct ctgctagatc ccagagttag gggctatat 420

tttcctgctg gtggctccag ttccggaaca gtaaaccctg ttccgactac tgccctcaccc 480

atatcgtaa tcttctcgag gactggggac cctgcaccga ac 522

<210> 2

<211> 522

<212> DNA

## Sequence Listing

<213> HBV(ayw subtype) pre S gene

<400> 2

atgggaggtt	ggtcttccaa	acctcgacaa	ggcatggggc	agaatcttc	caccagcaat	60
cctctggat	tcttccccga	ccaccagttg	gatccagcct	tcagagcaaa	caccgcaat	120
ccagattggg	acttcaatcc	caacaaggac	acctggccag	acgccaacaa	ggtaggagct	180
ggagcattcg	ggctgggatt	cacccacca	cacggaggcc	ttttgggtg	gagccctcag	240
gctcagggca	tactagaaac	gttgcagca	aatccgcctc	ctgcctctac	caatcgccag	300
tcaggaaggc	agcctacccc	gctgtctcca	cctttgagaa	acactcatcc	tcagggccatg	360
cagtggaaact	ccacaacctt	ccaccaaact	ctgcaagatc	ccagagttag	aggcctgtat	420
ttccctgctg	gtggctccag	ttcaggaaca	gtaaaccctg	ttccgactac	tgtctctccc	480
atatcgtaa	tcttctcgag	gattggggac	cctgcgctga	ac		522

<210> 3

<211> 522

<212> DNA

<213> HBV(adw subtype) pre S gene

<400> 3

atgggaggtt	ggtcatcaaa	acctcgacaa	ggcatggggc	cgaaccttc	tgttccaaac	60
cctctggat	tcttccccga	tcatcagttg	gaccctgcat	tcggagccaa	ttcaaacaat	120
ccagattggg	acttcaaccc	catcaaggac	cactggccac	aagccaacca	ggtaggagtg	180
ggagcatttg	ggccagggtt	cactcccca	cacggaggtg	ttttgggtg	gagccctcag	240
gctcagggca	tattggccac	cgtgccagcg	atgcctcctc	ctgcctccac	caatcgccag	300
tcaggaaggc	agcctactcc	catctctcca	cctcttaagag	acagtcatcc	tcagggccatg	360

## Sequence Listing

cagtggatt ccacagctt ccaccaagct ctgcaagatc ccagagtcag gggcctgtat 420  
ttcctgctg gtggctccag ttcaggaaca ctcaaccctg ttccaaactat tgcctctcac 480  
atctcgtaa tctcctcgag gattggggac cctgcaccga ac 522

<210> 4  
<211> 174  
<212> PRT  
<213> HBV(adr subtype) pre S protein

<400> 4  
Met Gly Gly Trp Ser Ser Lys Pro Arg .Gln Gly Met Gly Thr Asn Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Val Gly Ala Phe Gly  
50 55 60

Pro Gly Phe .Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His  
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

## Sequence Listing

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
165 170

<210> 5  
<211> 174  
<212> PRT  
<213> HBV(ayw subtype) pre S protein

<400> 5  
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Gln Asn Leu  
1 5 10 15

Ser Thr Ser Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Arg Ala Asn Thr Ala Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

Lys Asp Thr Trp Pro Asp Ala Asn Lys Val Gly Ala Gly Ala Phe Gly  
50 55 60

Leu Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Glu Thr Leu Pro Ala Asn Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Leu Ser Pro Pro Leu  
100 105 110

Arg Asn Thr His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His  
115 120 125

Gln Thr Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

## Sequence Listing

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Val Ser Pro

145

150

155

160

Ile Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro Ala Leu Asn

165

170

<210> 6

<211> 174

<212> PRT

<213> HBV(adw subtype) pre S protein

<400> 6

Met Gly Gly Trp Ser Ser Lys Pro Arg Lys Gly Met Gly Thr Asn Leu

1

5

10

15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro

20

25

30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Ile

35

40

45

Lys Asp His Trp Pro Gln Ala Asn Gln Val Gly Val Gly Ala Phe Gly

50

55

60

Pro Gly Phe Thr Pro Pro His Gly Gly Val Leu Gly Trp Ser Pro Gln

65

70

75

80

Ala Gln Gly Ile Leu Ala Thr Val Pro Ala Met Pro Pro Pro Ala Ser

85

90

95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu

100

105

110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Ala Phe His

115

120

125

Gln Ala Leu Gln Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly

130

135

140

## Sequence Listing

Gly Ser Ser Ser Gly Thr Leu Asn Pro Val Pro Thr Ile Ala Ser His  
145 150 155 160

Ile Ser Ser Ile Ser Ser Arg Ile Gly Asp Pro Ala Pro Asn  
165 170

<210> 7  
<211> 39  
<212> DNA  
<213> primer

<400> 7  
gtctctagac aagagaatgg gaggttggtc ttccaaacc

39

<210> 8  
<211> 37  
<212> DNA  
<213> primer

<400> 8  
atcgatccc tagttcggtg cagggtcccc agtcctc

37

<210> 9  
<211> 174  
<212> PRT  
<213> PreS-15m protein

<400> 9  
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

## Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly  
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His  
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
165 170

<210> 10

<211> 174

<212> PRT

<213> PreS-123m protein

<400> 10

Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr Asn Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

## Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly  
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His -  
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
165 170

<210> 11  
<211> 174  
<212> PRT  
<213> PreS-dm protein

<400> 11  
Met Gly Gly Trp Ser Ser Lys Pro Arg Gln Gly Met Gly Thr His Leu  
1 5 10 15

Ser Val Pro Asn Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro  
20 25 30

Ala Phe Gly Ala Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn  
35 40 45

## Sequence Listing

Lys Asp His Trp Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly  
50 55 60

Pro Gly Phe Thr Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln  
65 70 75 80

Ala Gln Gly Ile Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser  
85 90 95

Thr Asn Arg Gln Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu  
100 105 110

Arg Asp Ser His Pro Gln Ala Met Gln Trp His Ser Thr Thr Phe His  
115 120 125

Gln Ala Leu Leu Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly  
130 135 140

Gly Ser Ser Ser Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro  
145 150 155 160

Ile Ser Ser Ile Phe Ser Arg Thr Gly Asp Pro Ala Pro Asn  
165 170